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EXAMINER	
YUCKEY, D	
ART UNIT	PAPER NUMBER

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03/20/96

Please find below a communication from the EXAMINER in charge of this application.

Commissioner of Patents

Office Action Summary

Application No.
08/250,770

Applicant(s)
Kim

Examiner
David Yockey

Group Art Unit
2108



☒ Responsive to communication(s) filed on Dec 28, 1995

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-24 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-24 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on May 27, 1994 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Part III DETAILED ACTION

Drawings

1. The drawings are objected to because Figures 2A-2D are not designated by a legend such as "Prior Art". The legend is necessary in order to clarify what applicant's invention is. MPEP § 608.02(g). Correction is required.

Specification

2. The disclosure is objected to because of the following informalities:

The "Cross Reference To Related Applications" section is inappropriate because a foreign priority document does not constitute a "related application" for purposes of this section; deletion of this section is respectfully recommended.

Page 7, line 12 through page 10, line 8 should be in the Background of the Invention section of the specification.

Appropriate correction is required.

Specification

3. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains,

or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

The specification does not enable one of ordinary skill to make the printing control means, the data bus means and the beam scanning means because the structure for performing the separate functions attributed thereto is not disclosed.

Further, the specification does not enable one of ordinary skill to make the invention as a whole because the structure of the invention is not clearly recited in the specification; particularly, the specification at page 10 states that the stages that are the same or similar to those of the conventional techniques described previously will be assigned with the same reference numerals. Thus, it is not clear whether any given element with a numeral the same as the prior art is actually the same element as in the prior art, and if not its structure is wholly unspecified.

Claim Rejections - 35 USC § 112

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4. Claims 1-24 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

5. Claims 1-24 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims include recitations of means without specification of a function therefor; e.g. claim 5 recites "mode selecting means, but specifies no function therefor.

The claims include recitation of means with plural functions recited therefor; the printing control means in claim 1; and the data bus means, the clock signal generating means, and the beam scanning means in each of claims 17 and 23 each include plural functions.

It is not clear what element in the specification corresponds to the clock signal generating means recited in claim 23.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section

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102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

7. Claims 1-24 are rejected under 35 U.S.C. § 103 as being unpatentable over the Applicant's admitted prior art in FIGS. 1, 2A-2D in view of Tomita et al. and Hayashi et al. 4,989,039.

The admitted prior art teaches the claimed invention except the chopping means.

Tomita et al. disclose chopping means 3 providing chopped data by dividing data from a data transmitting means 4 in accordance with a clock signal (STB) from the combination of pulse signal generating circuit 6 and pulse signal selection circuit 7, illustrated in detail in FIG. 11. The Tomita et al. chopping means 3 controls provision of beam data by a print control means 2, thereby changing the power level of a light source in array 1. The pulse selection input to pulse signal selection circuit 7 is deemed to be a mode selecting means and the pulse selection signal is deemed to be a dividing ratio component which is broadly interpreted as being a component of

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the input data, as it is data which must be input along with pixel data to operate the apparatus.

Hayashi et al. '039 teach that it is known in the art to change a power level of a light source in an electrophotographic developing type reproduction apparatus in accordance with changes in environmental conditions, thereby facilitating provision of an image forming apparatus capable of forming an image with satisfactory tonal rendition regardless of changes in environmental conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Tomita et al. chopping means, pulse signal generating circuit and pulse signal selection circuit with the admitted prior art apparatus. The reason for the combination is to enable change of power level of the admitted prior art light source in accordance with changes in environmental conditions, thereby facilitating provision of an image forming apparatus capable of forming an image with satisfactory tonal rendition regardless of changes in environmental conditions.

In the combination, the Tomita et al. clock signal (STB) is suggested to be higher frequency than the clock signal 52 from dividing unit 50, since this is necessary for the different frequencies to have an effect on power level of the light source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate both the first clock signal and second clock signal by dividing a same clock signal from a single generator, particularly because it is known in the art to generate different clock signals by dividing a single clock signal, as evidenced by Tomita et al. FIG. 11. The reason for dividing from a single clock is to reduce the number of elements in the invention.

The steps of the method are deemed to be made clearly obvious by the functions of the structure of the combination discussed above.

Response to Amendment

8. Applicant's argument with respect to the drawing objection is deemed to be persuasive.

9. Applicant's remaining arguments filed 12-28-95 have been fully considered but they are not deemed to be persuasive.

Applicant argues that the objection to the specification with respect to the cross-reference section should be withdrawn since 37 CFR § 1.77(c)(1) and the MPEP do not prohibit inclusion of related foreign applications in the cross-reference section of the specification and that the Patent Office has accepted the inclusion of foreign applications in the cross-reference section by permitting issuance of patents with this type of cross-

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referencing. The Examiner respectfully disagrees. The MPEP indicates what is to be presented in particular sections of the specification; the only related applications indicated in the MPEP as being properly referenced in the cross-reference section are United States Patent Application. While other patents may have issued with foreign documents in the cross-reference section, the overwhelming majority have not and in considering the instant application, such practice is deemed to be improper.

Applicant's argument that there is no suggestion in MPEP 608.01(c) indicates that a "detailed explanation" of a conventional or prior art figure be provided in the Background section of the specification is not deemed to be persuasive. Part (2) of what the Background section ordinarily comprises, which is quoted by Applicant at page 4 of the amendment at issue, includes ***a paragraph(s) describing to the extent practical the state of the prior art or other information disclosed known to the applicant, including references to specific prior art or other information where appropriate.*** Applicant's description of the prior art figure is a description of the state of the prior art known to the applicant and refers to other information, i.e. a figure which is a generalization of the prior art. Applicant has not provided in the Background paragraphs describing to the extent practical the state of the prior art since these

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paragraphs obviously and improperly appear in the Detailed Description of the Invention.

Applicant argues that the function of the mode selecting means is "enabling a user to change a characteristic of said second clock signal". The Examiner respectfully disagrees. 35 U.S.C. § 112, sixth paragraph states that an element may be recited as a means or step for performing a specified function. Claim 5 does not recite a means for performing a specified function; instead claim 5 recited a means enabling a user to change a characteristic of said second clock signal. Accordingly, a function is not specified for the means in accordance with 35 U.S.C. § 112, sixth paragraph.

Applicant argues that the 35 U.S.C. § 112, second paragraph rejection with respect to specifying multiple functions for a single means should be withdrawn in view of In re Kelly, 134 USPQ 397 and Palmer v. United States, 163 USPQ 250. The Examiner respectfully disagrees. In re Kelly and Palmer v. United States are not germane to the issue. Each is directed to the issue of double inclusion, wherein two means-plus-function recitations which refer to the same element in the specification are recited in a claim. The delay in addressing the citation of case law on the record is regretted.

Upon reconsideration of the recitation of the data transmitting means, it is noted that the functions amount to

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conversion of input data to video data, as input and output are necessarily provided. Accordingly, the rejection based on the form of the data transmitting means is withdrawn.

With respect to the remaining means with plural functions, the functions attributed to a particular means are clearly independent and require additional structure to perform the separate functions. Where Applicant has recited only a box to perform a plurality of unrelated functions attributed to a means in the invention, the specification is deemed to be non-enabling and the claims unclear.

Applicant asserts that there is more than one clock signal generating means set forth in claim 23. It is respectfully submitted that the Applicant is mistaken. Claim 23 includes only one clock signal generating means and the element to which it corresponds in the specification is unclear. Applicant is advised to renumber the claims in accordance with the notice in the prior Office Action.

Applicant asserts that Figs. 2A-2D are not prior art. The Examiner respectfully disagrees. Figs. 2A-2D are disclosed as being signals generated by the prior art apparatus and thus are clearly prior art themselves.

Applicant argues that the specific structure of Tomita would not motivate one of ordinary skill to modify the admitted prior art. This argument is not deemed to be persuasive. A reference

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is to be considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art.

Applicant argues that there is no teaching of a problem in Fig. 1 and thus the combination is hindsight. This argument is not deemed to be persuasive. The problem being solved in the combination is to provide satisfactory tonal rendition regardless of changes in environmental conditions, as suggested by the art as a whole. This is found nowhere in Applicant's specification and thus cannot be a hindsight basis for combination.

Applicant's argument regarding a combination of a plurality of Tomita AND gates is again directed to the specific structure of Tomita without consideration of what is suggested by the prior art as a whole. Hayashi et al. suggests changing power level to a laser which is a light emitting diode to compensate for environmental conditions. Tomita disclose a structure which changes a power level to a light emitting diode. The admitted prior art includes a laser which is uncompensated for environmental conditions. The prior art as a whole suggests using an AND gate to control the power level of the laser in the prior art apparatus to compensate for environmental conditions.

Applicant's argument that the Tomita AND gate does not function as a chopping unit is not deemed to be persuasive. Clearly, the signal controlling the on time is chopped by a

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signal of a particular frequency and thus functions as a chopping unit.

In argument addressing Hayashi et al. Applicant again addresses only the specific structure of the references without consideration as to the suggestion thereby to one of ordinary skill in the art. This argument is not deemed to be persuasive for reasons discussed above.

10. Any inquiry concerning this communication should be directed to David Yockey at telephone number (703) 308-3084.

DY

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March 18, 1996

B. Fuller
BENJAMIN R. FULLER
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ART UNIT 218